

Bridge would require far less spectrum than three 6 MHz channels claimed by Amtech.<sup>20</sup>

The sum of Amtech's complaint is that, despite the interim

and it has been admitted to mean at all throughout the band

C. Co-Channel Separation Between Wideband Pulse-Ranging  
Systems Should Be Required

As pointed out in our Opening Comments at 12, co-channel

1. Pinpoint's Criticisms of Teletrac's Proposal are Unfounded, and it has Moved Away from its Open Sharing Proposals

Pinpoint has abandoned its previous position that the Commission should adopt an "open entry" LMS policy.<sup>23</sup> Pinpoint now advocates a system of limited entry, those potential entrants being limited to a one-day filing window, substantial financial qualifications and detailed technical showings.<sup>24</sup> The survivors of that process would then, under Pinpoint's vague proposal, sit down and negotiate some sort of time-sharing arrangement.

(Pinpoint Comments at 35-36). This may be a time-consuming and physically difficult process if the Commission receives numerous license applications in each market, as it has in other services. Should negotiations fail, Pinpoint falls back to a mandatory time-sharing arrangement based on equal time slots and some third party to administer the time-sharing. (*Id.* at 37).

Pinpoint is unable to state how any scheme would permit sharing among the dozens or hundreds of applicants what the

that Pinpoint's system would have any possibility of working.<sup>25</sup>  
Pinpoint never responds to the points raised by Dr. Jackson in  
his Affidavit explaining the inherent infirmities in TDMA  
sharing. (Exhibit B to North American Teletrac and Location  
Technologies, Inc.'s Application for Freeze, filed May 21, 1993).  
In fact, these vague proposals, which Pinpoint now augments with  
an obviously unworkable proposal for frequency division sharing

-95 to -85 dBm range. (Teletrac Comments Appendix 3 at 5). Teletrac has no quarrel with Pinpoint's assertion as to what a practical system should achieve. That is what Teletrac's system does achieve. As our Opening Comments demonstrate, Teletrac tested its receiver with a noise level at the -80 dBm level, and as the field test report shows, it works well. (Id. Appendix 2 at 16). Accordingly, accepting Pinpoint's logic, the Teletrac system meets Pinpoint's requirements for operating in this band and Teletrac's real world experience suggests sharing does not work.

Finally, just as Pinpoint's sharing proposals have changed, so has the description of the Pinpoint system itself. In its twenty Applications to build systems, Pinpoint claimed its base stations would have 484 watts E.R.P. (See, e.g., Pinpoint Communications, Inc. Application for Private Land Mobile Radio Services, FCC File No. 347483). Having apparently given the matter some more thought, and perhaps recognizing at least some of the consequences of the current RF environment, Pinpoint now suggests its base stations should be allowed to operate at 5000 watts E.R.P. (Pinpoint Comments at 29;<sup>27</sup> Figure 1). Pinpoint's ten-fold power increase shows that the "Tragedy of the Commons"

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<sup>27</sup> Not surprisingly, Amtech supports the Pinpoint proposal. Amtech Comments at 33.

has begun even before Pinpoint has deployed a single unit.<sup>28</sup>

(See Teletrac Petition at 25-26 and n.40).

In essence, the reason for these high power levels is that Pinpoint plans a mobile data service rather than a location service.<sup>29</sup> To sanction sharing rules proposed by an entity that does not plan to primarily engage in LMS is a recipe for disaster. And, as we note below, adopting the Pinpoint proposals would create enormous difficulties for Part 15 service. (See p. 45-46, infra).

Southwestern Bell, unlike Pinpoint, expressly acknowledges that "[i]t must be anticipated that in a shared environment, even the most robust system can ultimately be overwhelmed by co-channel noise." (Southwestern Bell Comments at 12). Thus, Southwestern Bell adopts Teletrac's view that a "Tragedy of the Commons" will ensue as open entry creates the potential for "frequency chaos in large urban markets" and that a "shared environment will ultimately fail without some measure of exclusivity." (Id. at 13-14 & n.23). Southwestern Bell accordingly endorses co-channel separation of wideband systems.

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<sup>28</sup> Pinpoint's high power levels are also necessary, in Pinpoint's words, "to ensure that the mobiles will be able to receive the base signals while near to local-area system/jamming sources." Pinpoint Comments at 29. Apparently, part of the need for this power increase is an attempt to overcome interference from Amtech-like tag readers.

<sup>29</sup> For example, in a recent court-filed document, Pinpoint refers to itself as a "radio-location based mobile data network." Pinpoint Communications, Inc. v. Cue Network Corporation, SA 92-859 GLT (RWR) (C.D. Cal., filed Feb. 18, 1993), ¶ 6.

2. Southwestern Bell's Proposal for 4 MHz Systems  
Should be Rejected

Having agreed to co-channel separation, Southwestern Bell once more advances the argument that wideband allocations should be limited to 4 MHz each, although it contends its technology "can operate on 2 MHz in today's LMS environment."<sup>30</sup> (Id. at 12-13).

Of course, that position is absolutely devoid of analysis or support. Southwestern Bell carefully avoids describing its technology or the operation of its system. It offers no information whatsoever that would counter Teletrac's showing in its Opening Comments that a 4 MHz LMS system is unlikely to prove

substance, does Pinpoint.<sup>31</sup> Pinpoint has, in fact, stated that 8 MHz is the "minimum acceptable bandwidth for IVHS applications." (Pinpoint Comments at 33).

A number of the parties try to make a great deal out of Teletrac's earlier statement that its system "uses" 4 MHz of spectrum.<sup>32</sup> (E.g., AAR Comments 7; Southwestern Bell Comments at 13). We attach herewith spectrum analyzer charts showing the actual bandwidth occupied by two models of radiolocation units (RLUs) that are used today by Teletrac customers. (Exhibit 5). The data are typical of all currently-available Teletrac RLUs. These charts clearly show energy is transmitted throughout the 904-912 MHz band. They also show that a negligible amount is transmitted outside the 904-912 MHz channel.

We suggest that a significant amount of confusion has been caused in this proceeding because there is no equipment authorization requirement for LMS, and consequently the Commission has not specified how an LMS system's bandwidth is to be measured. Different parties have chosen to use different ways

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<sup>31</sup> The report of Pinpoint's Mr. Jandrell suggests the capacity loss would be even greater, and that the combined capacity of two 4 MHz systems would be only one-quarter the capacity of one 8 MHz system. Teletrac believes that its calculations, rather than Mr. Jandrell's, are more accurate under the conditions likely to pertain in the real world. Compare Jandrell at 9-10 with Pickholtz Study at 9, 19 (Appendix 1 to Teletrac Opening Comments). In any event, the basic point, that Southwestern Bell's proposal will lead to a significant loss of capacity, is unassailable.

<sup>32</sup> Response of Teletrac to Comments of the Missile Group Old Crows, p. 12.



of measuring their bandwidths.<sup>33</sup> These equipment authorization procedures -- as the Commission's NPRM proposes -- are essential to achieving spectrally efficient, consumer oriented equipment.

Moreover, again because of the absence of an equipment authorization requirement, Teletrac uses transmit filters in its RLUs that are more conservative than might be necessary.<sup>34</sup> Thus, for example, if the Commission were to adopt the specific requirement of 47 C.F.R. 2.202(a) that 99% of the transmitter's power be contained within the bandwidth, then in future products we would modify our filters to spread the energy more evenly across the band and allow deployment of units with lower power as various customers have requested.

Thus, the 4 versus 8 debate is a red herring. Teletrac uses 4 MHz; it uses 8 MHz depending on the question being asked. It is clear, however, that in the wording of the interim rules, Teletrac requires 8 MHz to have the capacity to provide the panoply of services which wideband pulse-ranging systems can offer.

a. There is no economic justification for the Southwestern Bell proposal.

Southwestern Bell attempts to justify its proposal by claiming that two LMS licensees in each city is "not in the best

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<sup>33</sup> See, e.g., n.30, supra.

<sup>34</sup> The Teletrac signal would have an unfiltered bandwidth in excess of 10 MHz, using the bandwidth specification of 47 C.F.R. 2.202(a).

interest of the public."<sup>35</sup> Southwestern Bell has made no showing that LMS licensees will be able to exercise any market power if two are licensed in each city. Nor could it, as Teletrac's Opening Comments demonstrate.<sup>36</sup>

Other commenters in this proceeding have confirmed Teletrac's position that no "duopoly" or opportunity for the exercise of market power will result if two wideband LMS operators are licensed in each market. Part 15 users Knogo, VTech and HTS, for example, point out that

There are numerous wireless alternatives in existence or under consideration which are almost certain to embrace these types of location and monitoring services. Mobile satellite services are being developed which will provide region[al] and nationwide radio location services, which may be adaptable to the types of localized offerings under consideration here. The capacity of cellular and SMR systems are being expanded with the use of digital technologies that will encourage a variety of non-voice applications -- including, presumably, location and monitoring services, utilizing both wideband and narrowband technologies operating in the 900 MHz band.

-- Comments of Knogo Corp., VTech Communications and HTS, at 8-9<sup>37</sup>

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<sup>35</sup> Southwestern Bell Comments at 14.

<sup>36</sup> Teletrac Comments at 16-18, 39-41 and Appendix 3 at 11.

<sup>37</sup> The Comments of Part 15 Coalition at 5, stated that there are a "multitude of location and messaging options available to the consumer in other services and other spectrum." The Coalition points to the proposed TRX Transtel System and to the planned deployment of Cellular Digital Packet Data (CDPD) technology as substitutes for LMS services provided by Teletrac. Id. at 14-15.

Southwestern Bell contradicts itself claiming on the one hand that 4 systems are needed, but then pointing to the "rapid and highly successful development and implementation of cellular service throughout the nation," with two carriers.<sup>38</sup> It is fair to conclude that Southwestern Bell has provided no justification for its proposal to restrict bandwidth and, based on the evidence of record, it could not.

**b. Wideband pulse-ranging systems provide a unique combination of services requiring 8 MHz.**

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It is also clear that wideband LMS systems do have certain capabilities that other technologies do not. For example, the Wall Street Journal reported on July 20, 1993 that GPS faces substantial interference in mountainous terrains and in cities with tall buildings.<sup>39</sup> Nor are there any GPS stolen vehicle recovery services, probably due to the difficulty in hiding the GPS antenna. Thus, wideband pulse-ranging systems confer

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<sup>38</sup> Southwestern Bell Comments at 4 & n.7.

<sup>39</sup> Wall Street Journal, July 20, 1993, at B-1 (Exhibit 6). Auto-Trac, which apparently is seeking to use GPS for a vehicle location system, admits that there are locations where GPS receivers are in "blank areas," which means that the GPS signal is blocked and GPS data are insufficient to determine a location. Auto-Trac proposes to employ dead-reckoning techniques such as sensing of wheel rotations, gyroscopes and accelerometers to estimate locations in these cases, but admits that all of these approaches are expensive and have technical weaknesses. See U.S. Patent No. 5,223,844, "Vehicle Tracking and Security System" at 11.

important public benefits that amply justify a separate allocation.<sup>40</sup>

Southwestern Bell's comments provide a clue as to its mysterious failure to describe its technology and the capabilities of its proposed LMS service in any detail. Southwestern Bell appears to be of the view that any LMS allocation should become simply an adjunct of cellular service.<sup>41</sup>

Teletrac, on the other hand, believes that LMS service offers unique and important capabilities which go beyond those which can be provided by cellular, paging, and other wireless technologies. While Southwestern Bell may feel that 2 MHz or 4 MHz is sufficient for its "adjunct" service, Teletrac seeks to provide a new and different system, with multiple applications, that will require 8 MHz of spectrum for which it is now

licensed.<sup>42</sup> The Commission would risk the benefits of this technology if it were to accept Southwestern's position.

**3. Teletrac Supports the Alternative FCC Proposal**

In the NPRM, the FCC proposed an alternative suggestion to sharing among wideband systems. The alternative would provide co-channel separation to existing licensees for a period of five years. At the end of the five years, new licensees would have to "protect" the "initial licenses." Implicit in this proposal is that, during the five-year period, the initial licensees must have begun commercial operation of a system in order to retain the license.

As stated in our Opening Comments, Teletrac views this as a second-best alternative to complete co-channel separation. However, Teletrac is willing to support the proposal since it is better than sharing, which would provide no impetus for the growth of the LMS industry. Our Opening Comments at 46-47 included proposed detailed rules for implementing this approach.

**II. THE "WIDE-AREA/LOCAL-AREA" DISTINCTION SUGGESTED BY SOME COMMENTERS IS UNWORKABLE AND UNNECESSARY**

Teletrac has supported the Commission's distinction, both in its existing rules and the proposed rules, between wideband pulse-ranging vehicle location systems and other systems. (Teletrac Comments at 20-21). To make the distinction meaningful, Teletrac proposed, in its Opening Comments, a definition which states

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<sup>42</sup> Teletrac centers its signal at 908 MHz.

A pulse-ranging system should be defined as a Location and Monitoring Service system that

- a) transmits wideband pulses from a unit to be located and calculates location using time of arrival or differences in the time of arrival of the pulses at a number of fixed locations; or
- b) transmits wideband pulses from a number of fixed locations, and calculates location using time of arrival or differences in the time of arrival of the pulses at the unit to be located.

-- Teletrac Comments at 10-11.

Several commenters have suggested that a "wide area - local area" distinction would be preferable. (See, e.g., Amtech Comments at 2 n.3, 19 n.37; Mark IV Comments at 6 n.2). Teletrac continues to believe that the appropriate regulatory distinction for spectrum management purposes is between wideband pulse-ranging systems and other systems (narrowband or non-pulse-ranging).

The Commission's proposal provides a workable allocation of spectrum (assuming that multiple wideband pulse-ranging systems are not licensed in the same band), and allows a separation between wideband pulse-ranging systems, which are defined in § 90.105 as proposed by Teletrac (Comments at 10), and narrowband or other systems not eligible for licensing in the wideband pulse-ranging segments. However, a regulatory separation between wide area and local area, though perhaps intuitive, is not rigorous and cannot easily be captured in a rule (absent, perhaps, detailed technical specifications). This is because a

radio signal intended to identify a vehicle ten feet away will actually propagate for miles.

It would appear that the intent of at least some parties who propose the wide area/local area distinction is not to simplify or improve regulation, but rather to seize on the inherent vagueness of such a distinction to open up the wideband pulse-ranging segments to their nonqualifying systems. Amtech, for example, cites a letter from its General Counsel claiming it is a pulse-ranging system. (Amtech Comments at 19 n.37). This letter has already been presented to the Commission, which has nonetheless correctly characterized Amtech's system as "narrowband." (NPRM ¶ 25). Amtech's argument would appear to be merely an attempt to take advantage of the difficulty in rigorously defining wide area and local area systems to circumvent the Commission's separation proposal.

### **III. THE FORWARD LINK SHOULD REMAIN WHERE CURRENTLY POSITIONED**

Teletrac has supported the Commission's proposal to leave the forward links for wideband pulse-ranging systems where they are currently located. There has been no showing that the current forward link locations cause any interference or other problems, or that moving them to some other frequency will be workable.<sup>43</sup> Accordingly, maintaining the status quo is the best solution.

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<sup>43</sup> The forward link issue is thus wholly unlike the narrowband migration issue, where significant interference with existing operations has been shown.

Every commenter to address this issue, including wideband sharing proponent Pinpoint, agreed that some band should be identified for forward link operations. (See Comments cited at nn.45-50, infra). However, commenters were all over the lot as to where the links should be placed. The only common thread running through the proposals was that each would disrupt Teletrac's system by requiring Teletrac to move its forward link.

Pinpoint acknowledges that forward links cannot be shared and would constitute a "significant source of interference" for wideband pulse-ranging systems.<sup>44</sup> Pinpoint suggests that wideband pulse-ranging operators be required to use a link in the same channel as is used for location services. Amtech also suggests that wideband pulse-ranging forward links be moved to the edge of the 902-928 MHz band, or outside the band altogether.<sup>45</sup> Amtech concedes, however, that, "local area systems are not likely to be disturbed by the forward links."<sup>46</sup> Southwestern Bell suggests moving the links to the band edges, but this is where Southwestern Bell proposes moving Part 15 users

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<sup>44</sup> Pinpoint Comments at 21.

<sup>45</sup> Amtech Comments, at 31-32. Like Pinpoint, Amtech also suggests moving the links outside the bands, suggesting 901-02, 930-931 and 940-941 MHz frequencies or the use of paging and



as well.<sup>47</sup> Moreover, amateur radio operators have asked that one of the band edges be protected.<sup>48</sup>

Finally, MobileVision now argues that the forward link for a particular system should be located in the 8 MHz band that MobileVision will use for location functions -- even though earlier MobileVision supported Teletrac's proposal.<sup>49</sup> MobileVision states this proposal is less costly, but offers no analysis of the desirability or cost of moving the forward links. MobileVision does suggest it will give Teletrac an unspecified transition period to move its link.<sup>50</sup>

None of these commenters has provided any evidence or analysis in support of the various proposals to move Teletrac's forward link. Of course, since none yet has a commercially operating system, none will have its own operations affected. The desire of these commenters appears to be anticompetitive, to force Teletrac to pay for being the first in the market. No other justification for their proposals is apparent. No better proposal having been advanced, the Commission should adopt its NPRM proposal on this issue, which reduces the unnecessary disruption to existing operations.

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<sup>47</sup> Southwestern Bell Comments at 15-16, 20.

<sup>48</sup> Comments of William J. Kaiser at 2.

<sup>49</sup> See pp. 3-4 and n.3, supra.

<sup>50</sup> MobileVision Comments at 43-44.

IV. PART 15 AND AMATEUR OPERATIONS ARE NOT A PART OF THIS PROCEEDING, AND PROVIDE NO REASON FOR THE COMMISSION TO DELAY OR DEFER ADOPTION OF PERMANENT LMS RULES

A. The Commission Has Already Made Clear That This Proceeding will Not Affect the Status of Part 15 or Amateur Operations under the Commission's Rules

This proceeding has generated a good deal of interest from parties who have or claim an interest in Part 15 and amateur operations.<sup>51</sup> This interest appears to stem from an error in the NPRM, which as originally issued, suggested the Commission might consider removing Part 15 users and amateur operations from the band or restricting their operations. (NPRM ¶ 24).<sup>52</sup> On May 5, 1993, an erratum was released correcting this reference to state that commenters "should offer potential solutions, short of removing Part 15 users and amateur operations from the band, restricting where such users could operate in the band, or placing stricter limitations on the operation of such users in the band."<sup>53</sup>

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<sup>51</sup> A review of Part 15 equipment authorizations suggest that not all of the parties filing as Part 15 interests actually produce Part 15 equipment at the present time; nor is it clear how many operate in the 902-928 MHz band. See p. 37, infra. For example, Proxim is a Part 15 commenter in this proceeding yet Proxim has announced that its second generation devices will operate in the 2.4-2.483 GHz band rather than 902-928 MHz PC. PC Week, June 28, 1993 at 57.

<sup>52</sup> The sentence at issue read: "If not, commenters should offer potential solutions, such as removing Part 15 users and amateur operators from the band . . . or placing stricter limitations on the operation of such users in this band." NPRM ¶ 24.

<sup>53</sup> DA 93-516, PR Docket No. 93-61, RM-8013, ¶ 3, released May 5, 1993 (emphasis supplied). 8 FCC Rcd 3233.

The NPRM, as corrected, makes clear that this proceeding is not intended to work any change in the status of amateur radio and Part 15 users in the 902-928 MHz band. By the same token, no reconsideration of the Commission's overall approach to Part 15 or amateur radio regulation is conceivably within the scope of the proceeding. The Commission has confirmed that this is a proceeding about LMS service, not about the regulatory scheme governing Part 15 and amateur radio users.

A large number of the comments from Part 15 and amateur radio parties appear in large part to be unaware of, or to ignore, the erratum.<sup>54</sup> Given that the Commission has affirmed that amateur radio and Part 15 devices will remain within the band, the concerns of these commenters have already been addressed. They provide no reason for the Commission to delay the implementation of final LMS rules.

Another group of commenters, primarily members of the Part 15 Coalition, have asked the Commission to use this proceeding to reevaluate the entire regulatory structure governing Part 15 and amateur radio users. The Part 15 Coalition seeks a "comprehensive review of all facets of the use of this band," including establishment of a formal technical committee to establish sharing arrangements for the band.<sup>55</sup> Several manufacturers of Part 15 devices are more explicit. They ask the

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<sup>54</sup> See, e.g., Comments of MetroVision, Inc. at ¶ 4; Comments of Telescan Systems, Inc. at 1; Comments of Howard W. Reynolds at 1.

<sup>55</sup> Comments of Part 15 Coalition at 12, 18.

Commission to "review and refine its policies toward Part 15 devices," and assert it "should no longer be the rule that licensed devices are protected and that the unlicensed products must give way when new radio services or allocations are considered."<sup>56</sup> Similarly, the American Radio Relay League identifies its ultimate goal as "consideration of elevation of the status of the Amateur Radio Service in the band to co-primary among non-government users."<sup>57</sup>

Perhaps the most extreme proposal for using this proceeding to effect a radical alteration in Part 15 regulation comes from Sensormatic Electronics. Sensormatic proposes that LMS services be authorized on "an equal, secondary basis with Part 15 users."<sup>58</sup> Alternatively, Sensormatic seeks to exclude all LMS services entirely from the entire sub-band between 902 and 920 MHz.<sup>59</sup> This proposal is, of course, completely inconsistent with 47 C.F.R. § 90.239, and twenty years of regulatory policy thereunder, and would render all of Teletrac's licenses invalid.<sup>60</sup>

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<sup>56</sup> Knogo Corp., et al., Comments at 12. Accord, Comments of Domestic Automation Co. at 12-13.

<sup>57</sup> Comments of the American Radio Relay League, Inc., at 10.

<sup>58</sup> Comments of Sensormatics Electronics Corp. at 25.

<sup>59</sup> Id. at 26.

<sup>60</sup> Sensormatic's extremism can also be seen in its argument that because the Commission agreed to delay authorization of new Part 15 devices for one year in the 902-905 MHz subband to protect its operations, Sensormatic now has the right to have all other users removed from that subband.

It also seems that several of the commenters who are seeking such an expansion of the scope of this rulemaking do not currently have a significant interest in the 902-928 band. Knogo Corp., for example, concedes that its devices have generally operated at 25 MHz and that it has only recently become interested in the 902-928 MHz band. (Knogo Corp. Comments at 2-3). The Part 15 Coalition provides (unsubstantiated) numbers purporting to show large investments by its member companies, but at least some of its members have no significant presence in the 902-928 MHz band. The Alarm Industry Communications Committee (AICC) similarly provides no disclosure of the extent to which the operations it describes are actually present in the 902-928 MHz band; most if not all garage door openers and security alarms operate at 300-450 MHz.

Elevating Part 15 and amateur users above secondary status to primary or co-primary status would be a very substantial policy change for the Commission, with implications extending far beyond the scope of this proceeding. Such a significant policy change, should the Commission desire to consider it, would

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Sensormatic Comments at 14-15. Sensormatic goes so far as to accuse the Commission of bad faith for not giving it virtually exclusive use of the sub-band! Id. at 16.

properly be made the subject of a separate rulemaking.<sup>61</sup> It has no place in this proceeding.

**B. Contrary To The Misimpressions Of Some Commenters, Teletrac Has Not Proposed Substantial Increases To The Types Of LMS Services That Can Be Provided In The Band**

Some commenters also express concern that the band will become overloaded should the FCC expand the permissible uses of LMS to include location of all types of objects, and individuals as well as to provide service to the federal government.<sup>62</sup> However, these commenters misunderstand the status quo. As noted in the NPRM, ¶ 5, Teletrac is already generally authorized by waiver to provide those services directly.

The rulemaking would simply ratify existing operations; it would not, in doing so, create some special new problem for Part 15 and amateur users of the band. The Part 15 Coalition states that "Part 15 applications have flourished under the existing

rules."<sup>63</sup> If that is so, they should flourish as well under proposed rules which confirm existing operations and reduce the potential for interference between LMS systems.

Moreover, the NPRM at § 9, contains safeguards which address the concerns of some commenters that LMS will turn into a pure messaging service.<sup>64</sup> Under the NPRM, messaging performed by LMS services would have to be ancillary to location services.<sup>65</sup> Teletrac's supports this proposal.<sup>66</sup>

Finally, at least one Part 15 commenter appears under the misimpression that current AVM operations are merely temporary assignments, and seeks consideration based on that misunderstanding. (Cobra Electronics Comments at 2-3). Of course, the Commission has reserved the licensed bands in the

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<sup>63</sup> Comments of Part 15 Coalition at ii.

<sup>64</sup> See, e.g., Proxim Inc. Comments at 3.

<sup>65</sup> See Teletrac Comments at 10. For this reason, there is no merit in the suggestion that Teletrac's service should be considered a Personal Communications Service and moved to PCS spectrum above 1900 MHz. See Telxon Corp. at 6.

<sup>66</sup> The NPRM refers to these operations being provided "on a private carrier basis." However, LMS is principally an information service, not a communication service. Any communications component of LMS service is ancillary to that information service function. The Commission has made clear that this limitation will stay in place. (NPRM § 9 n.19). Accordingly, LMS licensees should not be classed as private carriers. Section 90.7 of the Commission's Rules define a private carrier as an entity "authorized to provide communications service . . . on a commercial basis." Emphasis supplied. Rather, we propose that the reference to LMS be deleted from proposed § 90.179 and that proposed § 90.105(a) be modified by adding, "on a commercial basis" at the end.

902-928 MHz band for AVM operations since 1974, and the licenses it has granted are not "temporary" in any way.

**C. There Is No Reason To Believe Any Significant Interference Will Exist Between LMS Operations And Part 15 And Amateur Users In The 902-928 MHz Band**

Although several commenters have expressed a general fear that the Commission's proposal will lead to increased interference problems between LMS on the one hand and Part 15 and amateur users on the other, none have provided any basis for such concern.<sup>67</sup> A number of commenters have pointed out that there are no interference problems currently, and that existing LMS operators and Part 15 and amateur radio users of the band have been good neighbors.<sup>68</sup> The Radio Relay League points out further that the band is available to amateurs only in ITU region 2 (and has been available only since 1985);<sup>69</sup> in addition, amateur use is prohibited in large areas of Texas, New Mexico, Colorado and

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<sup>67</sup> For example, one commenter, Kent Brittan, has once again filed comments. This time, he does not claim to represent the Missile Group Old Crows. He raises largely the same points as in his earlier comments. Teletrac has already responded to Mr. Brittan.

<sup>68</sup> See, e.g., Comments of William J. Kaiser, at 1 ("The Amateur Service has shared the band with AVM in a most



Wyoming.<sup>70</sup> Hence little equipment has been developed in the band.

Those commentators who do suggest there will be interference